

## ABSTRACT

A particle beam generator has a vacuum chamber, a magnet which generates a constant magnetic field in the vacuum chamber, acceleration electrodes which generates 5 a magnetic field in a direction perpendicular to the direction of the magnetic field generated by the magnet in the vacuum chamber, a take-out electrode which takes out charged particles accelerated in the vacuum chamber; and a target cell provided at a position at which the charged 10 particles taken out by the taken-out electrode strikes. At least a part of surfaces exposed to the charged particles of the vacuum chamber, the acceleration electrodes, the take-out electrode and/or the target cell is made of a material including an element having atomic number larger than 15 copper.